

REMARKS/ARGUMENTS

The Office Action of April 15, 2009 has been carefully reviewed and these remarks are responsive thereto. Claims 28, 29, 32, 37, 38, and 44 have been amended, claims 30, 31, 33-36, 39-43, and 45-47 have been canceled without prejudice or disclaimer, and new claims 48-70 have been added. No new matter has been added. Claims 28, 29, 32, 37, 38, 44, and 48-70 thus are pending in this application upon entry of the present amendment. Reconsideration and allowance of the instant application are respectfully requested.

Amendments to the Specification

Applicants have amended the specification to delete priority to prior applications which are not relied on to support the pending claims and which would unnecessarily limit the term of any resulting patent.

Rejections Under 35 U.S.C. § 103

Claims 28, 30-34, 36-37, 39-45, and 47 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Pat. No. 5,588,104, hereinafter Lanier I, in view of U.S. Pat. No. 5,588,139, hereinafter Lanier II, in view of U.S. Pat. No. 4,706,121, hereinafter Young, and in view of U.S. Pat. No. 5,361,091, hereinafter Hoarty. Claims 29 and 38 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lanier I, in view of Lanier II, in view of Young, in view of Hoarty, and in view U.S. Pat. No. 5,283,639, hereinafter Esch. Claims 35 and 46 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lanier I, in view of Lanier II, in view of Young, in view of Hoarty, and in view U.S. Pat. No. 5,737,533, hereinafter Hond. Applicants respectfully traverse these rejections.

Claims 30, 31, 33-36, 39-43, and 45-47 have been cancelled, thus rendering the rejections against these claims moot.

Claims 28 has been amended to recite,

A method , comprising:
receiving at a head end of television program delivery system a plurality of virtual objects targeted to a plurality of different groups of viewers, wherein said head end is configured to communicate with a terminal;

identifying at the head end a plurality of virtual object locations within each of a plurality of frames of a video program;

creating a plan which includes rules for selecting, for each of the virtual object locations, one of the plurality of virtual objects to display in that virtual object location, the rules based on measures of compatibility between image content surrounding that virtual object location and each of the different groups of viewers; and

transmitting said video program, one or more of the plurality of virtual objects, and said plan to said terminal.

Claim 37 has been amended to recite similar features. The Office cites Lanier I for disclosing various features of claims 28 and 37 including a “video program,” “virtual objects,” and “virtual object locations” within “frames of a video program.” However, Lanier I cannot teach such features. Lanier I discloses a method of creating a virtual world and modeling objects in a three dimensional coordinate system of the virtual world (Lanier I, Abstract). Lanier I does not teach or suggest how to receive or manipulate frames of a video program. While the Office has previously noted that the pending claims must be “given their broadest reasonable interpretation consistent with the specification” (Advisory Action, May 02, 2006), the broadest reasonable interpretation of the claims must also be consistent with the interpretation that those skilled in the art would reach (In re Cortright, 165 F.3d 1353, 1359, 49 USPQ2d 1464, 1468 (Fed. Cir. 1999)). Neither Applicants’ specification, Lanier I, nor any of the other cited references teach or suggest that a “plurality of frames of the video program” could be understood to encompass Lanier’s three dimensional virtual world as suggested by the Office Action; nor has the Office Action provided other evidence that those skilled in the art would interpret the claims in such a way. Lanier II, Young, and Hoarty fail to overcome this shortcoming of Lanier I. Accordingly, claims 28 and 37 are allowable over the alleged combination of Lanier I, Lanier II, Young, and Hoarty.

Even if Applicants’ claims are understood to encompass three dimensional virtual worlds as disclosed in Lanier I, Lanier I is not combinable with Young and Hoarty as suggested by the Office because such a combination would render Lanier I unsatisfactory for its intended purpose and would change the principle of operation of Lanier I. Lanier discloses a virtual reality system. In such a system, Lanier I indicates one task that must be performed is the “very tedious task” of creating a three dimensional virtual world within which the users interact (Lanier, col. 1 lines 20-27). Lanier I, stating a desirability to make three dimensional virtual world creation as simple as possible,

discloses an improved method of creating the three dimensional virtual world (Lanier, col. 1 lines 20-27). The method principally operates by displaying a hierarchical model graph and the data flow network which enable the user to visualize, traverse, and manipulate the data structure of the virtual world while the virtual world is being created by the user (Lanier I, col. 2 lines 9-16, 36-46). Lanier I further discloses receiving inputs from external devices such as a virtual reality glove which enable users to interact with the virtual environment (Lanier I, col. 1 lines 36-44, col. 3 lines 6-30). These features enable users to effect complicated operations on the virtual world (Lanier I, col. 4 lines 14-21).

In distinction to Lanier, Young discloses a system for selecting and viewing television broadcast programs and for recording the television broadcast programs on a VCR (Young, col. 3, lines 1-30). Hoarty discloses an interactive multimedia system with distributed processing and storage of video picture information in nodes disposed throughout a cable television distribution system (Hoarty, Abstract). To combine Lanier I with Young and Hoarty, either: 1) Lanier I would have to be modified to receive and convert the television broadcast programs and video picture information from Young and Hoarty to a three dimensional virtual world; or 2) Young and Hoarty would have to be modified to distribute three dimensional virtual worlds and Lanier I would have to be modified to receive the distributed three dimensional virtual worlds (as opposed to creating virtual worlds).

Modifying Lanier I in the first combination to convert received programs and video picture information to a three dimensional virtual world or in the second combination to receive virtual worlds would change the principle of operation of Lanier I by adding new functionality not disclosed or suggested by any of the references and by obviating features such as the hierarchical model graph and the data flow network which principally operate to visually aid a user in creating the three dimensional world.

Both modifications would also render Lanier I unsatisfactory for its intended purpose of "mak[ing] virtual world creation as simple as possible" (Lanier I, col. 1 lines 26-27) with an improved method that permits a user to create and manipulate a three dimensional virtual world and render the virtual world to a two dimensional display (Lanier I, col. 1 lines 36-45). The Office Action applies Lanier I for the processing of frames (two dimensional features) of a video program

and Young and Hoarty present television broadcast programs and video picture information already suitable for presentation on a two dimensional display. Modifying Lanier I to process and display two dimensional features would defeat the intended purpose of Lanier I of enabling a user to simply create a three dimensional virtual world using by the visual aids disclosed (hierarchical model graph and data flow network). Because the combination of Lanier I with Young and Hoarty would render Lanier I unsatisfactory for its intended purpose and would change the principle of operation of Lanier I, claims 28 and 37 are further allowable over the combination of Lanier I, Lanier II, Young, and Hoarty.

Claims 29, 32, 38, and 44 are allowable for all the reasons given above concerning their respective base claims, and further in view of their specific recitations that have not been shown to be anticipated by (or obvious from) the prior art.

New Claims

Claims 48-70 have been added. The new claims are fully supported by Applicants' application as originally filed and no new matter has been added. Specific support for the new claims can be found at least in original claim 1, disclosing receiving and inserting virtual objects into virtual object locations in a video program; page 9 line 18 to page 10 line 2, disclosing virtual object locations within a sequence of video frames; original claims 8 and 9, disclosing a terminal with a receiver, memory, processor, and display (television); page 32 lines 14-21 and page 33 table D, disclosing measures of compatibility between image content surrounding virtual object locations and each of the different groups of viewers; page 33 lines 4-10 and page 34 table E, disclosing rankings of pairs of each virtual object with each of the different groups of viewers; page 27 table B and page 29 table C, disclosing associating a terminal with different groups of viewers and selecting virtual objects for virtual object locations based on the associating; page 10 lines 20-24 disclosing movement of virtual object locations; figure 2, disclosing two virtual object locations in different spatial locations within a frame; page 67 lines 7-10, disclosing selecting virtual objects based on viewer specific data; page 66 line 27 to page 67 line 6, disclosing changing virtual objects displayed in repeated presentations of the video program based on receiving updated virtual objects and based on viewer specific data; and page 66 lines

15-18 and page 67 lines 7-10, disclosing a plan and updating a plan based on viewer specific data.

Applicants' note that new independent claim 48 recites the feature of "receiving a video program at a terminal over a television broadcast system, the video program including a plurality of virtual object locations within a sequence of video frames," new independent claim 59 recites the feature of "one or more receivers configured for receiving a video program at the terminal over a television broadcast system, the video program including a plurality of virtual object locations within a sequence of video frames," and new independent claim 70 recites the features of "identifying at the head end a plurality of virtual object locations within each of a plurality of frames of the video program." For substantially the same reasons discussed above with respect to claims 28 and 37, the cited references, alone or in combination, do not anticipate or render obvious new independent claims 48, 59 and 70. Accordingly, Applicants respectfully submit that new independent claims 48, 59 and 70, and new dependent claims 49-58 and 60-69 are allowable over the cited references.

CONCLUSION

All issues having been addressed, Applicant respectfully submits that the instant application is in condition for allowance, and respectfully solicits prompt notification of the same. However, if for any reason the Examiner believes the application is not in condition for allowance or there are any questions, the Examiner is requested to contact the undersigned at (202) 824-3000.

Respectfully submitted,

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Dated this 15th day of July, 2009

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